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Juro Ozeki

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

NILAND, PATRICK DENNIS

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/5/09 has been entered.

The amendment of 5/5/09 has been entered. Claims 1, 3, and 5-6 are pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5332784 Shiraki et al. in view of US Pat. No. 4433114 Coran et al..

Shiraki et al. discloses mixtures of polyphenylene ethers, polymers including styrene based thermoplastic elastomers modified with imidazolidinone compound in the instantly claimed amounts at the abstract; column 4, lines 45-53; column 6, line 33 to column 8, line 40; column 9, lines 22-62, particularly 53-60; column 12, lines 16-24; column 16, lines 19-68; column 17, lines 11-12; column 20, lines 53-68, which encompasses the instantly claimed polyphenylene ether based resin; column 21, lines 1-14 and 45-68; column 22, lines 1-38, particularly 20-38, which encompasses the instantly claimed amounts of components (a) and (b); column 25, lines 51-54, which encompasses the instantly claimed clay fillers, and lines 57 of which "other additives" encompasses the well known flame retarder additives; and the remainder of the document.

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It would have been at least obvious to one of ordinary skill in the art at the time of the instant invention to use the above discussed combinations of ingredients and amounts thereof because they are encompassed by Shiraki et al., exemplified and would have been expected to give the properties disclosed by Shiraki et al..

Shiraki et al. does not disclose the instantly claimed surface treatment nor the flame retardant of claim 5.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the clay filler of Shiraki et al. treated with the compounds of the instant claims 1 and 3 because they are broadly encompassed by Shiraki et al. by the broad recitation of “filler” and the general recitation of “clay” and such fillers are shown by Coran to be known for improved reinforcing properties to rubber compositions (Coran, column 17, lines 50-58), and this improved reinforcement would have been expected in the composition of Shiraki et al. and the clays exemplified by Coran have the instantly claimed particle size of claim 6 (column 17, lines 55-62 of Coran).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the compound of the instant claim 5 in the broad amount range claimed because the general class of compounds are disclosed at column 25, line 57 and column 29, lines 20-23 of Shiraki et al. and using larger amounts, which are encompassed by the lack of limits on the amounts of such additives by Shiraki et al., would have been expected to give greater stabilization.

Arguments related to only the examples of Shiraki are not commensurate in scope with the full teachings of Shiraki and the above rejection. These arguments are therefore not

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persuasive. Arguments relating to Coran alone are not commensurate in scope with its use in the above rejection and are therefore not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). These arguments do not address the purpose for which Coran was cited.

Arguments relating to adding clay to polyphenylene ether alone is not commensurate in scope with the above rejection. Shiraki adds the clay to polyphenylene ether and the instantly claimed imidazolidinone modified styrene thermoplastic elastomer, which elastomer will improve impact properties due to the nature of elastomers seen when they are struct with an impact blow, e.g. they bounce back. These arguments do not address the cited prior art.

Arguments to the various argued examples do not address the above rejection, which is not limited to these examples. These examples are also not commensurate in scope with the instant claims and the cited prior art.

Arguments relating to Shiraki and Coran being distinct from each other do not rebut the above obviousness rationale. If they were not distinct they would be equivalent to each other. Then we would not have 35 USC 103, if references were required to be equivalents. The above rationale for combining the references is proper under *Graham v. Deere* and *KSR*. See MPEP 2141. The reinforcing properties obtained from treating clays, as taught by Coran, is equally expected in Shiraki's compositions by the ordinary skilled artisan. No reason is seen why this would not be. Coran is not cited for the combination of the instantly claimed A and B. Shiraki is. Shiraki also teaches the clay fillers and the typical treatments of fillers, including the

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treatment taught by Coran, are expected to give their typical results to the fillers of Shiraki also. This does not use impermissible hindsight. Again, see MPEP 2141, particularly the KSR decision cited therein. The above cited motivation to combine Shiraki and Coran is a clearly articulated reasons why the claimed invention would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention.

The Yamaguti declaration of 5/5/09 has been fully considered. The applicant's arguments have been fully considered.

The instant claims recite no properties, including the declaration's drop impact strength, gloss, IZOD impact values, and elongation at break. It would seem that these properties can be materially affected by modulus, which is materially affected by various parameters of the compositions, including ingredient amounts, particulars of the ingredients, including molecular weights, degree of treating imidazolidinone, and other properties. The declaration examples are not commensurate in scope with the instant claims and the cited prior art in these regards therefore. The declaration is not persuasive therefore. The declaration uses only one set of amounts. It is not seen that all of the amounts encompassed by both the instant claims and the cited prior art give the reported results. The declaration examples are not commensurate in scope with the instant claims and the cited prior art in these regards therefore. The declaration is not persuasive therefore. It cannot be determined that the declaration's results will necessarily transfer to the other composition properties, including amounts and ingredient particulars, encompassed by both the instant claims and the cited prior art because chemistry is an unpredictable art. The instant claims and the cited prior art are not limited to the declaration's aminosilane treated filler. See the instant claim 3 and Coran, column 17, lines 50-62. It is

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expected that the type of surface treatment and particle size materially affect the declaration properties. In any event, the examiner cannot determine whether the declaration's reported results would occur within the full scope of the instant claims due to unpredictable nature of the chemical arts. The examiner cannot tell if there are any differences attributable to the method of making the declaration's examples because the specifics of the declaration's methods are not seen. The methodology is expected to materially affect the reported properties. Arguments to different elastomers are not persuasive because the prior art teaches the instantly claimed elastomers.

The strengthening effects attributable to the filler treatment per the teachings of Coran noted above are expected to give improved physical properties such as drop impact strength, IZOD impact values, and elongation at break per the teachings of Coran.

The applicant's arguments regarding improvements due to NUCAP being relative to no filler at all are not supported by the disclosure of Coran. The improvements are attributed to the treated filler per se. As such it is clear that the treated fillers give the reported improvements. These improvements are expected in the compositions of Shiraki, as stated above. The skilled artisans understand the treatments to be important in the properties attributable to the filler or else they would not undergo the expense of treating the fillers and the treatments will clearly give improved compatibility of the fillers with the resins due to increase of similarities of polarities of the filler to the resin, thereby clearly creating more van der Waals bonds, ionic bonds, and hydrogen bonds and potentially covalent bonds depending on the nature of the treatment, resin and filler, and the method of combining the ingredients. These bonds necessarily increase the strength and physical properties due to the increased amount of energy

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required to break these bonds that is proportional to the number and type of bonds formed.

"Reinforcing" is also noted with regard to the fillers of Shiraki. The skilled artisan would understand that the fillers of Shiraki, e.g. clay that is hydrophilic relative to the resins, would not be as compatible with the hydrophobic resin as clay that is treated with hydrophobic organic compounds, such as the coupling agents of Coran. The untreated clays are therefore expected to not have as many different bonds with the resin. The improved properties of Coran is therefore expected with respect to both no filler and untreated filler, as would be appreciated by the ordinary skilled artisan and their understanding of the function of the surface treatments of Coran.

There is no showing of unexpected results commensurate in scope with the instant claims and the cited prior art. The applicant's arguments have been fully considered but are not persuasive for the above reasons. This rejection is therefore maintained for the above reasons.

4. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Friday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Patrick D Niland/
Primary Examiner
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